Secondly, the action of the spectrum is confined, or nearly so, to the region of it occupied by the luminous rays, as contra-distinguished both from the so-called chemical rays beyond the violet, (which act with chief energy on argentine compounds, but are here for the most part ineffective,) on the one hand, and on the other, from the thermic rays beyond the red, which appear to be totally ineffective. Indeed, the author has not hitherto met with any instance of the extension of this description of photographic action on vegetable colours beyond, or even quite up to the extreme red.

Besides these, the author also observed that the rays which are effective in destroying a given tint, are, in a great many cases, those whose union produces a colour complementary to the tint destroyed, or at least one belonging to that class of colours to which such complementary tint may be referred. Yellows tending towards orange, for example, are destroyed with more energy by the blue rays; blues by the red, orange and yellow rays; purples and pinks by yellow and green rays. These phenomena may be regarded as separating the luminous rays by a broadly defined line of chemical distinction from the non-luminous; but whether they act *as such*, or in virtue of some peculiar chemical quality of the heat which accompanies them *as heat*, is a point which the author considers his experiments on guaiacum as leaving rather equivocal. In the latter alternative, he observes, chemists must henceforward recognise, in heat from different sources, differences not simply of intensity, but also of quality; that is to say, not merely as regards the strictly chemical changes it is capable of effecting in ingredients subjected to its influence.

One of the most remarkable results of this inquiry has been the discovery of a process, circumstantially described by the author, by which paper washed over with a solution of ammonio-citrate of iron, dried, and then washed over with a solution of ferro-sesquicyanuret of potassium, is rendered capable of receiving with great rapidity a photographic image, which, from being originally faint and sometimes scarcely perceptible, is immediately called forth on being washed over with a neutral solution of gold. The picture does not at once acquire its full intensity, but darkens with great rapidity up to a certain point, when the resulting photograph attains a sharpness and perfection of detail which nothing can surpass. To this process the author applies the name of *Chrysotype*, to recall to mind its analogy with the Calotype process of Mr. Talbot, to which in its general effect it affords so close a parallel.

2. "Experimental Researches on the Elliptic Polarization of Light." By the Rev. Baden Powell, M.A., F.R.S., Savilian Professor of Geometry in the University of Oxford.

This paper contains an experimental investigation of the phenomena of elliptic polarization resulting from the reflexion of polarized light from metallic surfaces, and the theory on which they are explicable; the analytical results being given in a tabular form, and applied to the cases of the experiments themselves.